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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/734,753

12/09/2003

Dennis R. Morrison

MSC-23277-1

1973

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08/01/2006

NASA JOHNSON SPACE CENTER  
MAIL CODE HA  
2101 NASA RD 1  
HOUSTON, TX 77058

EXAMINER

NGUYEN, TU T

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 08/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/734,753

Applicant(s)

MORRISON, DENNIS R.

Examiner

Tu T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2 and 4-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18-24 is/are allowed.
- 6) ☒ Claim(s) 1,2,4-15,17 and 25-28 is/are rejected.
- 7) ☒ Claim(s) 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments with respect to claims 1-2,4-28 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

*Claims 1,4-7,9-15,17,25,28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montes (2004/0260157) in view of Schwartz (6,610,256).*

With respect to claim 1, Montes discloses a device for analyzing microparticles. The device comprises: a chamber comprising an inlet and an outlet for respectively introducing and dispensing a flowing fluid comprising microparticles, the chamber configured to induce a laminar flow of fluid (fig 1) (paragraph [0036]); a light source (laser, fig 1) adapted to provide incident light (laser beam, fig 1) through the chamber; a photometer (detector, fig 1) light transmitted through individual microparticles.

Montes discloses a multiple detectors (detectors a-b, fig 1) for detecting light. Montes does not disclose an imaging system configured to acquire images of the flowing fluid within the chamber. Schwartz discloses a camera (column 20, lines 20-30) for taking images of the laminar flow channel (column 20, lines 1-30). Since Montes

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discloses using a plurality of detectors, It would have been obvious to modify Montes by replacing one of the detector with a camera taught by Schwartz for different intended uses. Further, Montes does not explicitly disclose measuring the intensity of the light. Since Montes discloses using the fluorescent detectors (fig 1) for measuring the scattered light, it would have been obvious that Montes's detectors measure the intensity of the light.

With respect to claim 4, Schwart discloses the claimed channel size (column 20, lines 5-10).

With respect to claim 5, Montes discloses a processor (fig 1) for analyzing the measured intensities. However, Montes does not disclose acquiring images. Schwartz discloses an image processor 66 (fig 3A). It would have been obvious to combine Montes with the image processor taught my Schwartz into one processor to reduce the system cost. Further the prior arts do not explicitly disclose a storage medium. Since Schwartz discloses using a processor for analyzing the sample, it would have been obvious that Schwartz's processor would have to have a storage medium and a program in order to analyzing the sample.

With respect to claim 6, the prior arts disclose the claimed invention except for controlling the fluid flow through the channel. It would have been obvious to modify

Montes's processor to control the fluid flow through the channel to synchronize the flow with the speed of the detectors to facilitate the measurement.

With respect to claim 7, the prior arts disclose the claimed invention except for a magnification lens. However, the claimed lens would have been known. It would have been obvious to modify the prior arts with the known magnification lens to enlarge any desired particle for better inspection.

With respect to claim 9, the prior arts disclose the claimed invention except for operating the system from battery power. It would have been obvious to modify the system using a battery power to make the system portable.

With respect to claim 10, refer to discussion in claim 1 above for the system and claim 5 for the storage medium. The prior arts do not disclose the claimed view ports. It would have been obvious to modify the prior arts with the claimed view ports for viewing the sample easier. Further, the prior arts disclose characterizing the size of the particle (abstract) except for determining the quantity of the particles. It would have been obvious to modify the prior arts to determine different characteristics of the sample for different intended uses.

With respect to claim 11, Montes discloses the claimed filters (filter, fig 1).

With respect to claims 12-15, the prior arts disclose the claimed invention except for the program instruction to measure different characteristics of the sample as claimed. However, it would have been obvious to modify the prior arts to measure different characteristics of the sample as claimed for different intended uses.

With respect to claim 17, the prior arts disclose the claimed invention except for identifying the particle by comparing the measure light with spectral characteristics of known particles. However, the claimed comparing would have been known. It would have been obvious to modify the prior arts with the known comparing method as claimed to identify the particles easier.

With respect to claims 25, refer to discussion in claim 1 above for the system, claim 5 for the storage medium.

With respect to claim 28, the prior arts disclose the claimed invention except for the cleaning system. The claimed cleaning system would have been known. The skill artisan would have been motivated to modify the prior arts with the claimed cleaning system to clean the system before taking measurements to facilitate the measuring.

Claims 2,8,26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montes (2004/0260157) in view of Schwartz (6,610,256) and Ortyn et al (6,532,061).

With respect to claims 2,26, the prior arts disclose the claimed invention except for a plurality of light sources. Ortyn discloses using a multiple light sources 12, 12a (fig 11) at different wavelengths. It would have been obvious to modify the prior arts with a plurality of light sources having different wavelengths taught by Ortyn to measure different characteristics of the sample at a same time.

With respect to claim 8, the prior arts disclose the claimed invention except for a moveable mirror system. Ortyn discloses a mirror system 76 (fig 9) for splitting or directing light. It would have been obvious to modify the prior arts with the mirror system taught by Ortyn to facilitate the measurement.

With respect to claim 27, refer to discussion in claim 8 above for the mirror and claim 11 for the filters.

***Allowable Subject Matter***

Claims 18-24 are allowed.

As per claim 18, the prior arts of record, taken alone or in combination, fail to disclose or render obvious the step of comparing at least some of the intensities of light between different images of the fluid to detect and characterize the microparticle, in combination with the rest of the steps in the claim.

Claim 16 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As per claim 16, the prior arts of record, taken alone or in combination, fail to disclose or render obvious a program instructions for comparing measured intensities of light transmitted through the microparticles at different locations within the chamber, in combination with all the limitations in the base claim.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu T. Nguyen whose telephone number is (571) 272-2424. The examiner can normally be reached on T-F 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Toatley Jr. can be reached on (571) 272-2800 Ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Tu T. Nguyen', with a long, sweeping horizontal line extending to the right.

Tu T. Nguyen  
Primary Examiner  
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07/21/2006